# SPECTEC
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w w w . s p e c t e c s e n s o r s . c o m

0051 • 0052
RF PICKUP
WITH OPTIONAL TEMPERATURE PROBE
1/2, M12

## PRODUCT DESCRIPTION

SPECTEC's RF pickups are active sensors driven by an external RF ("carrier") signal conditioner. Together they complete an oscillating circuit. The output of this circuit is amplitude modulated when a ferrous object passes by the pickup coil. This change in modulation of the carrier frequency is then converted into a square wave pulse by the signal conditioner for computer and/or further processing.

RF4 pickups are designed to work with the applicable SPECTEC, COX F&P, & other carrier signal conditioners.

RF10 pickups work with the applicable SPECTEC, FTI, Hoffer, Sponsler, and other carrier signal conditioners.

An internal temperature probe is available which is positioned near the face of the sensor.

## SPECIFICATIONS

**DC-Coil Resistance/**
**Inductance:**
RF4:      4 Ω/ .36  mH
RF10:    12 Ω/1.00 mH

**Frequency Range**: 0.5 to 5000 Hz*

**Air Gap**:
Open Face:      ≤.160"*
(sealed epoxy surface, high sensitivity)
Closed Face:      ≤.130"*
(sealed stainless steel membrane, for harsh environment.)
*depending on target mass and type of signal conditioner

**Oscillations Voltage**: 3-9 Vpp when connected to an RF signal conditioner with: Vs=11-30 DCV

**Temperature Range:**
3T:      -150° to 330°F (-100° to 165°C)
3T w/NTC: -112° to 300°F (-80° to 150°C)
4HT:     -250° to 400°F (-157° to 204°C)
5HT:     -450° to 450°F (-270° to 232°C)
5HT w/RTD: -330° to 450°F (-200° to 232°C)
8HT:     -450° to 750°F (-270° to 400°C)

**Connectors**: See Page 2 for Configurations
All Connectors have Gold Plated Pins

**Lead Wire**: TFE: 22 AWG
See Page 2 for Wire & Cable Options

**Construction**: 300 Series Stainless Steel
Solid Epoxy Encapsulation

**CE-Compliance**: **EN55011, EN50082-2**

## OPTIONS

Custom configurations are available, incl. special materials of construction, lead wires with connector terminations, etc… Please contact Sales
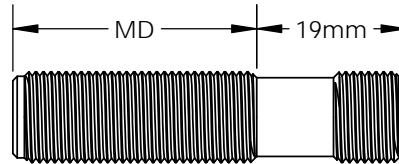
**For intrinsically safe versions refer to bulletins: IS70 & IS71**
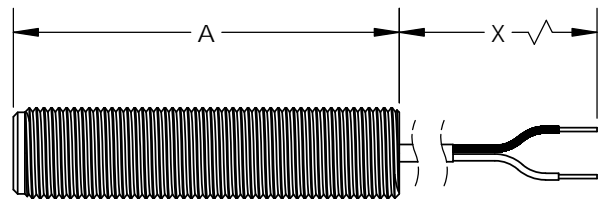
## SIGNAL CONDITIONERS

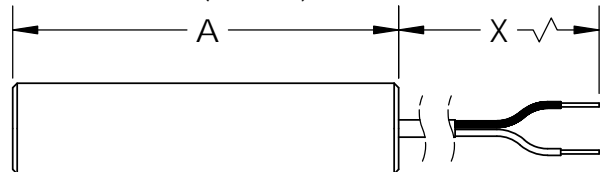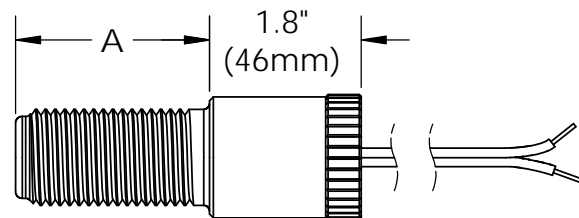For matching signal conditioners, refer to SPECTEC's 4013, 4014 series.

**0052**    1/2-20 UNF
**0052M**    M12x1



1.10 Max (28mm)
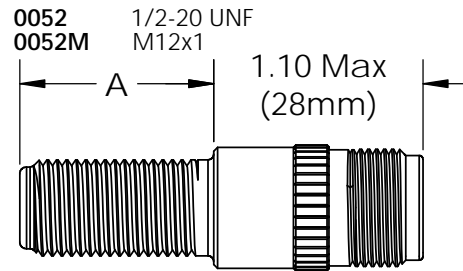
**0052MD**    M12x1 w/ MD4 Connector Only



MD — 19mm

**0051A**    1/2-20 UNF
**0051B**    1/2-32 UN
**0051M**    M12x1



**0051S**    Ø1/2" (12.7mm) Smooth Shell



**0051**    1/2-20 UNF FOR 8HT



1.8" (46mm)

**0051X**    1/2-20 UNF w/ 1/2-14 NPT



1.2 (30mm)
.8 (20mm)
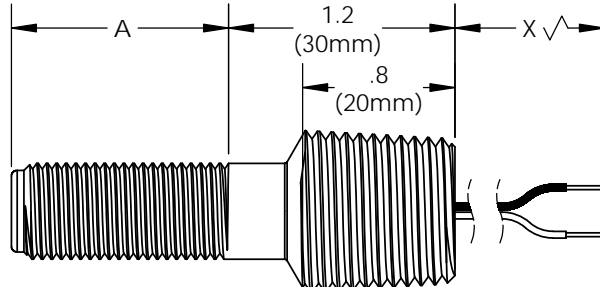
# ORDER INFORMATION

**STYLE:** | **OPTIONS:** | **THREADS/DIA.:**

0052   - ☐ ☐ ☐ ☐   **1/2-20 UNF**
0052M  - ☐ ☐ ☐ ☐   **M12 x 1.0**
0052MD - ☐ ☐ ☐ ☐   **M12 x 1.0 (MD4 Connector Only)**

| | **0052 & 52M** | **0052MD** |
|---|---|---|
| **1** - 1.0" (25mm) | | 19mm |
| **2** - 2.0" (51mm) | | 32mm |
| **3** - 3.0" (76mm) | | 45mm |
| **4** - 4.0" (101mm) | | 83mm |
| **6** - 6.0" (152mm) | | 133mm |

**Thread Length (A,MD):**

**Pole Type:**
**1** - Epoxy Face (Higher Sensitivity)
**2** - Stainless Steel Face (Harsh Environments)

**Connector:**
**1** - MS:   2 Pin  MS3106-10SL-4S (see Bulletin 3000)
**2** - B:    2 Pin  MS3113-H8C-2P (see Bulletin 3001)
**4** - B4:   4 Pin  MS3113-H8C-4P (see Bulletin 3001)
**6** - MD4:  4 Pin  MICRO DIN (see Bulletin 3005)

**Temperature Range:**
**3** - 3T: -150° to +330°F (-101° to +165°C)
**C** - NTC: -112° to 300°F (-80° to 150°C) – NTC10k Ohm ±1%
**4** - 4HT: -250° to 400°F (-157° to +204°C)
**A** - 4HT w/ RTD: -250° to 400°F (-157° to +204°C) – RTD100 Ohm, DIN EN 60751 F0.15
**5** - 5HT: -450° to +450°F (-268° to +232°C)
**B** - 5HT w/ RTD: -330° to 450°F (-200° to +232°C) – RTD100 Ohm, DIN EN 60751 F0.15

### Connector Pinouts

**MS**
COIL — COIL
A   B

**B**
COIL — COIL
A   B

**B4**
COIL A   D OPEN
COIL B   C OPEN

**MD4**
COIL 1   4 OPEN
COIL 2   3 OPEN

**Coil Type:**
**1** - RF4:  4.0 Ohm
**3** - RF10: 12.0 Ohm

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0051A - ☐ ☐ ☐ ☐   **1/2-20 UNF   ALL THREAD**
0051B - ☐ ☐ ☐ ☐   **1/2-32 UN   ALL THREAD**
0051M - ☐ ☐ ☐ ☐   **M12 x 1.0   ALL THREAD**
0051S - ☐ ☐ ☐ ☐   **Ø1/2" (12.7mm) Smooth Shell**
0051  - ☐ ☐ ☐ ☐   **1/2-20 UNF for 8HT**

**Length(A):**
**2** - 1.0" (25mm)
**3** - 1.25" (32mm)
**4** - 1.50" (38mm)
**5** - 2.00" (51mm) **[1.80"(46mm) for 0051S ONLY]**
**6** - 2.50" (64mm)
**7** - 4.00" (101mm)
**8** - 6.00" (152mm)

**SAME AS ABOVE**

**Lead Wire(X):**
**2** - 2' (.6m)   Single Leads
**7** - 3' (1m)    Shielded Cable, 8HT: Single Lead
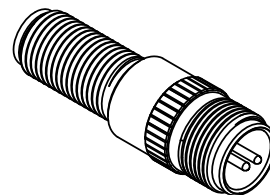**9** - 10' (3m)   Shielded Cable, 8HT: Single Lead

Note: For Shielded Cable, shield is not connected to sensor shell, and is intended to be connected to the instrument panel ground.

**Temperature Range:**
**SAME AS ABOVE BUT WITH ADDED 8HT (0051 ONLY)**

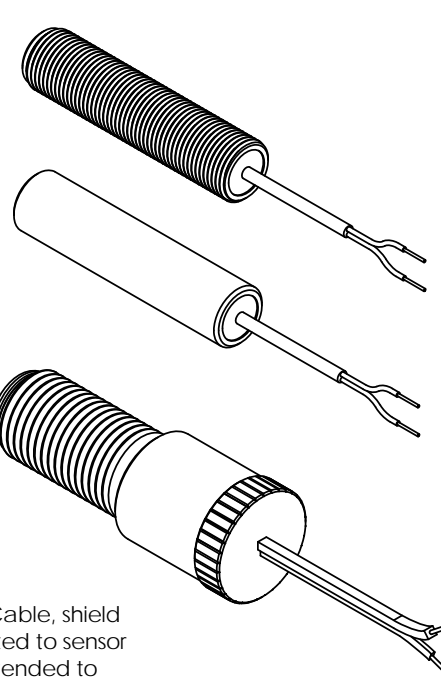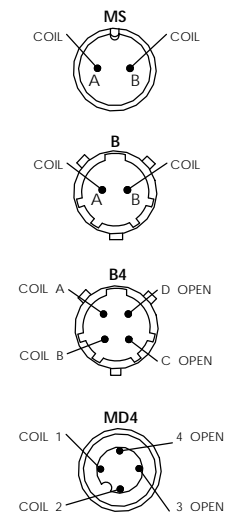**8** - 8HT: -450° to +750°F (-268° to +400°C)

**SAME AS ABOVE**

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0051X - ☐ ☐ ☐ ☐   **1/2-20 UNF with 1/2-14 NPT Male Conduit**

**Thread Length(A):**
**1** - 1.3" (33mm)
**2** - 2.50" (64mm)

**SAME AS ABOVE**